

CLAIMS:

- 1) A method of maintaining a status of a product item, the product item including an associated interface surface, the interface surface having disposed thereon or therein coded data including a plurality of coded data portions, each coded data portion being indicative of an identity of the product item, the method including, in a sensing device:
  - (a) sensing at least one coded data portion;
  - (b) generating, using the sensed coded data portion, indicating data indicative of the product item identity; and,
  - (c) transferring the indicating data to a computer system, the computer system being responsive to the indicating data to update product status information stored in a data store.
- 2) The method of claim 1, the product status information indicating for at least one product item, the product item identity and the status of the product item.
- 3) The method of claim 1, wherein the method includes, in the sensing device:
  - (a) sensing at least one coded data portion; and,
  - (b) generating the indicating data using the sensed coded data portion.
- 4) The method of claim 1, wherein each coded data portion is indicative of the respective position, and wherein the method includes, generating in the sensing device and using the sensed coded data portion, indicating data indicative of at least one of:
  - (a) a position of the sensed coded data portion on the interface surface; and,
  - (b) a position of the sensing device relative to the interface surface.
- 5) The method of claim 4, wherein the method includes, in the computer system:
  - (a) receiving the indicating data;
  - (b) generating, using the received indicating data:
    - (i) position data indicative of at least one of:
      - (1) the position of the sensed coded data portion on the interface surface; and,
      - (2) the position of the sensing device relative to the interface surface; and,
    - (ii) identity data indicative of the identity of the product item; and,
  - (c) updating, using the identity data and the position data, the status information.
- 6) The method of claim 1, wherein the interface surface includes at least one region, including coded data indicative of an identity of the at least one region, and wherein the method includes, in the sensing device:
  - (a) sensing the coded data disposed within the at least one region; and,
  - (b) generating, using the sensed coded data, indicating data indicative of the region identity.
- 7) The method of claim 6, wherein the method includes, in the computer system:
  - (a) receiving the indicating data;

- (b) generating, using the received indicating data, region identity data indicative of the identity of the at least one region;
  - (c) updating, using the identity of the at least one region, the status information.
- 8) The method of claim 6, wherein the at least one region represents a user interactive element.
- 5 9) The method of claim 1, wherein the method includes, in the sensing device:
  - (a) selecting a status mode; and,
  - (b) generating indicating data indicative of the selected status mode.
- 10 10) The method of claim 9, wherein the method includes, selecting the status mode by at least one of:
  - (a) using an input provided on the sensing device; and,
  - (b) sensing an interface surface, the interface surface including coded data disposed thereon or therein, the sensing device being responsive to the coded data to select the sensing mode.
- 15 11) The method of claim 9, the method including, in the computer system:
  - (a) receiving the indicating data;
  - (b) generating, using the received indicating data:
    - (i) identity data indicative of the identity of the product item; and,
    - (ii) mode data indicative of the status mode;
  - (c) updating, using the identity data and the mode data, the status information.
- 20 12) The method of claim 1, the method including, in the computer system:
  - (a) selecting a status mode;
  - (b) receiving the indicating data;
  - (c) generating, using the received indicating data, identity data indicative of the identity of the product item;
  - (d) updating, using the identity data and the mode data, the status information.
- 25 13) The method of claim 12, wherein the method includes, selecting the status mode by at least one of:
  - (a) using an input provided on the computer system; and,
  - (b) in the computer system:
    - (i) receiving mode indicating data from a sensing device, the sensing device being
    - 30 responsive to sensing of coded data provided on a respective mode interface surface to generate indicating data indicative of the status mode;
    - (ii) generating, using the received indicating data, mode data indicative of the status mode; and,
    - (iii) using the mode data to select the status mode.
- 35 14) The method of claim 1, wherein the method includes, in the computer system;
  - (a) receiving the indicating data;

- (b) determining the product item identity;
  - (c) determining a current product item status from the product status information stored in the data store; and,
  - (d) updating the product status information in accordance with the indicating data.
- 5 15) The method of claim 1, wherein the interface surface includes at least one region having visible markings representing a respective product item status, the method including, in the sensing device:
- (a) sensing coded data provided in the region; and,
  - (b) generating, using the sensed coded data, indicating data indicative of the respective product
- 10 item status, the computer system being responsive to the indicating data to update the status information using the respective product item status.
- 16) The method of claim 1, wherein at least part of the product status information represents an inventory.
- 17) The method of claim 16, wherein the method includes, in the computer system:
- 15 (a) determine, using the indicating data, identity data indicative of the product item identity; and,
- (b) updating the inventory using the identity data.
- 18) The method of claim 17, wherein the inventory includes at least an indication of a predetermined number of product items of respective product types, the method including, in
- 20 the computer system:
- (a) determining , using the indicating data, the product item type;
  - (b) determining the number of product items of the respective product item type;
  - (c) comparing the number of product items to the predetermined number; and,
  - (d) in response to the comparison, at least one of:
- 25 (i) providing an indication of the product item type on a shopping list;
- (ii) updating the product status information; and,
- (iii) taking no action.
- 19) The method of claim 1, wherein at least part of the product status information represents a shopping list.
- 30 20) The method of claim 19, wherein the method includes, in the computer system:
- (a) determine, using the indicating data, identity data indicative of the product item identity; and,
  - (b) updating the shopping list using the identity data.
- 21) A method of maintaining a status of a product item, the product item including an associated
- 35 interface surface, the interface surface having disposed thereon or therein coded data including

a number of coded data portions, each coded data portion being indicative of an identity of the product item, the method including, in a computer system:

- (a) receiving indicating data from a sensing device, the sensing device being responsive to sensing of the coded data to generate indicating data indicative of the identity of the product item;
- (b) generating, using the received indicating data, identity data indicative of the identity of the product item;
- (c) update product status information stored in a data store.

22) The method of claim 21, wherein the coded data portions are provided at respective positions on the interface surface, wherein each coded data portion is indicative of the respective position, wherein the sensing device generates, using at least one sensed coded data portion, indicating data indicative of at least one of a position of the sensed coded data portion on the interface surface and a position of the sensing device relative to the interface surface, and wherein the method includes, in the computer system:

- (a) receiving the indicating data;
- (b) generating, using the received indicating data:
  - (i) position data indicative of at least one of:
    - (1) the position of the sensed coded data portion on the interface surface; and,
    - (2) the position of the sensing device relative to the interface surface; and,
  - (ii) identity data indicative of the identity of the product item; and,
- (c) updating, using the identity data and the position data, the status information.

23) The method of claim 21, wherein the interface surface includes at least one region, including coded data indicative of an identity of the at least one region, wherein the sensing device generates, using sensed coded data disposed within the at least one region, indicating data indicative of the region identity, and wherein the method includes, in the computer system:

- (a) receiving the indicating data;
- (b) generating, using the received indicating data, region identity data indicative of the identity of the at least one region; and,
- (c) updating, using the identity of the at least one region, the status information.

24) The method of claim 21, wherein the interface surface includes at least one region having visible markings representing a respective product item status, wherein the sensing device generates, using sensed coded data provided in the region, indicating data indicative of the respective product item status, and wherein the method includes, in the computer system:

- (a) receiving the indicating data;
- (b) generating, using the received indicating data, status data indicative of the product item status; and,

(c) updating, using the status data, the status information.

25) The method of claim 21, wherein the sensing device, when operating in a status mode and in response to sensing coded data, generates indicating data indicative of the status mode, and wherein the method includes, in the computer system:

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(a) receiving the indicating data;

(b) generating, using the received indicating data:

(i) identity data indicative of the identity of the product item; and,

(ii) mode data indicative of the status mode;

(c) determining, using the identity data and the mode data, an status request; and,

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(d) updating the status information using the status request.

26) The method of claim 21, the method including, in the computer system:

(a) selecting a status mode;

(b) receiving the indicating data;

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(c) generating, using the received indicating data, identity data indicative of the identity of the product item;

(d) determining, using the identity data and the selected status mode, a status request; and,

(e) updating the status information using the status request.

27) The method of claim 26, wherein the method includes selecting the status mode by at least one of:

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(a) using an input provided on the computer system; and,

(b) in the computer system:

(i) receiving mode indicating data from a sensing device, the sensing device being responsive to sensing of coded data provided on a respective mode interface surface to generate mode indicating data indicative of the status mode;

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(ii) generating, using the received indicating data, mode data indicative of the status mode; and,

(iii) using the mode data to select the status mode.

28) The method of claim 21, wherein the method includes, in the computer system;

(a) receiving the indicating data;

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(b) determining the product item identity;

(c) determining a current product item status from the product status information stored in the data store; and,

(d) updating the product status information in accordance with the indicating data.

29) The method of claim 21, wherein at least part of the product status information represents an inventory.

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30) The method of claim 29, wherein the method includes, in the computer system:

- (a) determine, using the indicating data, identity data indicative of the product item identity; and,
  - (b) updating the inventory using the identity data.
- 5 31) The method of claim 21, wherein the inventory includes at least an indication of a predetermined number of product items of respective product types, the method including, in the computer system:
  - (a) determining , using the indicating data, the product item type;
  - (b) determining the number of product items of the respective product item type;
  - (c) comparing the number of product items to the predetermined number; and,
  - 10 (d) in response to the comparison, at least one of:
    - (i) providing an indication of the product item type on a shopping list;
    - (ii) updating the product status information; and,
    - (iii) taking no action.
- 15 32) The method of claim 21, wherein at least part of the product status information represents a shopping list.
- 33) The method of claim 32, wherein the method includes, in the computer system:
  - (a) determine, using the indicating data, identity data indicative of the product item identity; and,
  - (b) updating the shopping list using the identity data.
- 20 34) A method of maintaining a status of a product item, wherein the method includes providing the product item with an associated interface surface, the interface surface having disposed thereon or therein coded data including a plurality of coded data portions, each coded data portion being indicative of an identity of the product item such that when the coded data portion is sensed by a sensing device, the sensing device generates indicating data indicative of the product item
  - 25 identity, the indicating data being transferred to a computer system which is responsive to the indicating data to update product status information stored in a data store.
- 35) The method of any one of claims 1, 21 and 34, wherein the status information includes an indication of the product item being at least one of:
  - (a) purchased;
  - 30 (b) in use; and,
  - (c) used.
- 36) The method of any one of claims 1, 21 and 34, wherein the coded data is substantially invisible to the unaided eye.
- 37) The method of any one of claims 1, 21 and 34, wherein the coded data is printed using infrared
  - 35 ink.

- 38) The method of any one of claims 1, 21 and 34, wherein each coded data portion is indicative of an EPC associated with the product item.
- 39) The method of any one of claims 1, 21 and 34, wherein the coded data is provided on the interface surface coincident with visible markings representing at least one of:
- 5 (a) product information;  
 (b) the identity of the product item;  
 (c) product status information; and,  
 (d) a status request.
- 40) The method of any one of claims 1, 21 and 34, wherein the interface surface is at least a portion of at least one of:
- 10 (a) product item packaging;  
 (b) product item labelling;  
 (c) product manuals;  
 (d) product instructions; and,  
 15 (e) a surface of the product item.
- 41) The method of any one of claims 1, 21 and 34, wherein the coded data is disposed over at least one of:
- (a) substantially all of any one of:
- 20 (i) an entire product surface;  
 (ii) packaging; and,  
 (iii) a product label;
- (b) more than 25% of any one of:
- (i) an entire product surface;  
 (ii) packaging; and,  
 25 (iii) a product label;
- (c) more than 50% of any one of:
- (i) an entire product surface;  
 (ii) packaging; and,  
 (iii) a product label;
- 30 (d) more than 75% of any one of:
- (i) an entire product surface;  
 (ii) packaging; and,  
 (iii) a product label;
- 42) A sensing device for maintaining a status of a product item, the product item including an associated interface surface, the interface surface having disposed thereon or therein coded data
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including a plurality of coded data portions, each coded data portion being indicative of an identity of the product item, the sensing device including:

- (a) a sensor for sensing at least one coded data portion;
- (b) a processor for generating indicating data indicative of the product item identity; and,
- 5 (c) a communication means for transferring the indicating data to a computer system, the computer system being responsive to the indicating data to update product status information stored in a data store.

43) The sensing device of claim 42, wherein the sensing device is adapted for use in the method of claim 1.

10 44) A computer system for providing status information relating to a product item, the product item including an associated interface surface, the interface surface having disposed thereon or therein coded data including a plurality of coded data portions, each coded data portion being indicative of an identity of the product item, wherein the computer system:

- 15 (a) receives indicating data generated by a sensing device in response to sensing of at least one coded data portion, the indicating data being indicative of the product item identity;
- (b) generates, using the received indicating data, identity data indicative of the identity of the product item; and,
- (c) updates, using the identity data, the product status information stored in a data store.

20 45) The computer system of claim 44, wherein the computer system is adapted for use in the method of claim 21.

25 46) A product item, the product item having an associated interface surface, the interface surface having disposed thereon or therein coded data including a plurality of coded data portions, each coded data portion being indicative of an identity of the product item such that when the coded data portion is sensed by a sensing device, the sensing device generates indicating data indicative of the product item identity, the indicating data being transferred to a computer system which is responsive to the indicating data to update product status information stored in a data store.

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